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# **BIRNBACH**

COMPANY INC.

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## *Insulation Products Bulletin*

- **HEAT SHRINKABLE TUBING** (Pg. 2)
- **FIBERGLASS SLEEVING** (Pg. 3)
- **TEFLON TUBING** (Pg. 4)
- **EXTRUDED PLASTIC TUBING** (Pg. 4)
- **LACING CORD & TAPE** (Pg. 5)
- **COMPLETE LISTING of Specifications** (Pg.6)

IPB-1

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# HEAT SHRINKABLE PVC & POLYOLEFIN TUBING

MAXIMUM CONTINUOUS OPERATING TEMPERATURE	BIRNBACH NUMBER	SIZE	MIN. EXPANDED I.D.	MAX. RECOVERED I.D.	NOM. WALL RECOVERED
<b>105°C</b> MIL-I-23053 A Grade 5 MIL-I-631 Grade C	SK265-1/32"	1/32"	.062	.031	.020
	SK265-3/64"	3/64"	.094	.047	.025
	SK265-1/16"	1/16"	.125	.063	.025
	SK265-3/32"	3/32"	.184	.094	.025
	SK265-1/8"	1/8"	.250	.125	.025
	SK265-3/16"	3/16"	.375	.188	.025
	SK265-1/4"	1/4"	.500	.250	.025
	SK265-3/8"	3/8"	.750	.375	.025
	SK265-1/2"	1/2"	1.00	.500	.030
	SK265-3/4"	3/4"	1.50	.750	.035
	SK-265-1"	1"	2.00	1.00	.040
U. L. Approved					
<b>135°C</b> MIL-I-23053 (wep) Class I	SK275-1/32"	1/32"	.062	.031	.020
	SK275-3/64"	3/64"	.094	.047	.025
	SK275-1/16"	1/16"	.125	.063	.025
	SK275-3/32"	3/32"	.184	.094	.025
	SK275-1/8"	1/8"	.250	.125	.025
	SK275-3/16"	3/16"	.375	.188	.025
	SK275-1/4"	1/4"	.500	.250	.025
	SK275-3/8"	3/8"	.750	.375	.025
	SK275-1/2"	1/2"	1.00	.500	.030
	SK275-3/4"	3/4"	1.50	.750	.035
	SK275-1"	1"	2.00	1.00	.040
U. L. Approved					

PROPERTIES CHART		
	RATING	TEST
TENSILE STRENGTH	2960 PSI	ASTM D-876-59-T
ULTIMATE ELONGATION	200%	ASTM D-876-59-T
BRITTLINESS TEMPERATURE	-34° C.	ASTM D-746-57-T
SPECIFIC GRAVITY	1.34	MIL-I-631 D, 4. 6. 12
WATER ABSORPTION	0.06% 24 Hours	ASTM D-570-57-T Proc. A
DIELECTRIC STRENGTH	1050 Volts/Mil	ASTM D-149-55-T
VOLUME RESISTIVITY	5.2 x 10 <sup>14</sup> Ohm-cm	ASTM D-257-58 MIL-I-631 D 4. 6. 13
FUNGUS RESISTIVITY	0-1	MIL-I-631 D 3. 5. 7 and 4. 6. 16
FLAMMABILITY	Self-Extinguishing	ASTM D-876-60-T MIL-I-631 D, 4. 6. 13
FLEXIBILITY AFTER HEAT AGING 200 Hrs. at 100° C. BEND OVER 1/8" MANDREL	GOOD	
CORROSION ON COPPER, BRASS AND ALUMINUM AFTER 14 DAYS at 100° C.	EXCELLENT	MIL-I-7444 B

CHEMICAL RESISTANCE CHART	
FUEL JP-4 MIL-J-5624	EXCELLENT
AVIATION GASOLINE 100/130	EXCELLENT
HYDRAULIC OIL MIL-O-5606	EXCELLENT
HYDROCHLORIC ACID 35%	EXCELLENT
WATER	EXCELLENT
SODIUM CHLORIDE 5%	EXCELLENT
ALKALIS	EXCELLENT

\*NOTE: SK265 PVC tubing is unsuitable in contact with organic solvents.  
SK265 PVC tubing has a higher resistance to oils than low density Polyethylene.

## STOCK COLORS: BLACK, WHITE, CLEAR

1/32" Thru 1/8" 500' — 250' — 100' — 50' — 25'  
3/32" Thru 1/4" 250' — 100' — 50' — 25'  
5/32" Thru 1" 100' — 50' — 25'

## HEAT SHRINKABLE TEFLON® TUBING

TEFLON®	Birnbach No.	Nominal Tubing Size	Minimum Expanded ID	Recovered Maximum ID (1)	Dimensions Wall Thickness (2)
<b>250°C</b> MIL-I-23053 (wep) Class II	SK-621-22	22*	.055"	.032"	.010"
	SK-621-20	20*	.060"	.039"	.012"
	SK-621-19	19	.065"	.043"	.012"
	SK-621-18	18*	.076"	.049"	.012"
	SK-621-17	17	.085"	.054"	.012"
	SK-621-16	16*	.093"	.061"	.012"
	SK-621-15	15	.110"	.067"	.012"
	SK-621-14	14*	.120"	.072"	.012"
	SK-621-13	13	.140"	.080"	.012"
	SK-621-12	12*	.150"	.089"	.012"
	SK-621-11	11	.170"	.101"	.012"
	SK-621-10	10*	.191"	.112"	.012"
	SK-621-9	9	.205"	.124"	.015"
	SK-621-8	8*	.240"	.141"	.015"
	SK-621-7	7	.270"	.158"	.015"
	SK-621-6	6*	.302"	.178"	.015"
	SK-621-5	5	.320"	.198"	.015"
	SK-621-4	4*	.348"	.224"	.015"
	SK-621-3	3	.360"	.249"	.015"
	SK-621-2	2*	.375"	.278"	.015"
	SK-621-1	1	.385"	.311"	.015"
	SK-621-0	0*	.400"	.347"	.015"
	SK-621-3/8	3/8"	.560"	.399"	.020"
	SK-621-7/16	7/16"	.655"	.462"	.020"
	SK-621-1/2	1/2"	.750"	.524"	.020"
Standard Put-up—36" Straight Lengths;					

## HEAT SHRINKABLE TEFLON® TUBING

Is a Class C material modified from polytetrafluoroethylene. The tubing will shrink when heated to 621 F. (It should be heated until it turns semi-transparent, then the heating process immediately stopped. Overheating can cause splitting, therefore trial and error testing is recommended to establish the proper time and temperature for each application.) Correct procedure will result in a snug-fitting insulating wrap possessing hi-heat resistance, superior chemical resistance, and excellent electrical characteristics. The tubing is available in a full range of colors. Stock colors: black, white, natural.

\* Dupont Polytetrafluoroethylene

## SK621 TEFLON® TUBING

### PROPERTIES CHART

TE SERIES  
Shrinkable "Teflon"

DIELECTRIC STRENGTH (20 Mil Wall)	850 Volts/Mil
DIELECTRIC CONSTANT	2.2
POWER FACTOR	.00
VOLUME RESISTIVITY	10 <sup>17</sup> Ohms/CM
FUNGUS RESISTANCE	Inert
FLAMMABILITY	Will Not Support Combustion
FUEL AND OIL RESISTANCE	Superior
HYDRAULIC FLUID RESISTANCE	Superior
SOLVENT RESISTANCE	Superior
ACID AND ALKALI RESISTANCE	Superior
CORROSION RESISTANCE	Excellent
TENSILE STRENGTH	5000-7500 PSI
ULTIMATE ELONGATION	300-500%
WATER ABSORPTION	Nil
LOW TEMPERATURE BRITTLE POINT	-66°F
HARDNESS	98 Shore A
SPECIFIC GRAVITY	2.2

## HAG-12 500/750°F Hot Air Gun For PVC & PE Series HAG-13 750/1000°F Hot Air Gun For TE Series



The quickest and most versatile method for applying heat is the hot air gun, noted herein. Also, use of an oven, radiant heat, dipping in hot liquids, or using a soldering iron or the flame of a match.





# B-130 — VINYL COATED/FIBERGLASS SLEEVING

## Per MIL-I-3190B and NEMA Standards to 130° C.



(ASTM, NEMA Grade B-B-1) MEETS MIL-I-3190 SPECS. — Quality Electronic and Electrical Tubing. It is Class B Insulation that combines the best features of the inorganic fiberglass base sleeving with heat resistant, flexible plastic, insulation. The plastic compound provides the highest electrical properties, heat stability (130° C.), flexibility and toughness. Meets performance requirements of specs. MIL-I-3190 A, NEMA VSI, ASTM D 372.

Birnbach No.	B & S Ga. Size No.	Old No.	Nom. I.D.
B130-24	24	289	.022
B130-22	22	290	.027
B130-20	20	291	.037
B130-19	19	—	.038
B130-18	18	293	.042
<hr/>			
B130-17	17	—	.047
B130-16	16	294	.053
B130-15	15	—	.059
B130-14	14	295	.066
B130-13	13	—	.076
<hr/>			
B130-12	12	300	.085
B130-11	11	—	.095
B130-10	10	307	.106
B130-9	9	—	.118
B130-8	8	301	.133

### SIZES

#24, 22, 20, 18, 14, 12, 10, 8, 6, 4, 2

3/16", 1/8", 1/2", 3/8"

#19, 17, 15, 13, 11, 9, 7, 5, 3

#1, 0, 3/16"

3/4", 7/8", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/4", 2 1/2"

Birnbach No.	B & S Ga. Size No.	Old No.	Nom. I.D.
B130-7	7	—	.148
B130-6	6	302	.166
B130-5	5	—	.186
B130-4	4	305	.208
B130-3	3	—	.234
<hr/>			
B130-2	2	306	.263
B130-1	1	—	.294
B130-0	0	303	.330
B130-3/8	3/8"	304	.387
B130-1/2	1/2"	—	.450
<hr/>			
B130-1/2	1/2"	299	.512
B130-5/8	5/8"	296	.640
B130-3/4	3/4"	—	.768
B130-7/8	7/8"	—	.893
B130-1	1"	—	1.018

### STANDARD COLORS

Black, Red, White, Yellow, Brown, Orange, Green, Blue, Gray, Purple

Black, Red, White, Yellow, Orange, Green, Blue

Black, Red, Yellow, Green

Black, Yellow

Black

OTHER COLORS AVAILABLE TO ORDER

### DIMENSIONAL TOLERANCES OF VINYL COATED FIBERGLASS

Size	Apx. I.D.	N.E.M.A. Tolerances Inches
24	.022	.020-.027
22	.027	.025-.032
20	.034	.032-.039
18	.042	.040-.049
16	.053	.051-.061
14	.066	.064-.072
12	.085	.081-.089
10	.106	.102-.112
8	.133	.129-.141
6	.166	.162-.178
4	.208	.204-.224
3/4, 2	.263	.258-.278
5/8, 0	.3125	.312-.328
3/8	.375	.375-.399
1/2	.500	.500-.524
5/8	.625	.625-.655

### PHYSICAL & ELECTRICAL PROPERTIES B-130 VINYL COATED FIBERGLASS

Class B  
Grade B-1  
Dielectric Strength ..... 4000 V.  
Temperature Rating ..... 130° C.  
Low Temp. Flexibility ..... -30° C.  
Non-Flammable  
Ins. Resistance ..... Over 1,000,000 MEGS.  
Corrosion Resistance ..... Excellent  
Oil Resistance ..... Good

### COLORS:

Black, Red, White, Yellow, Brown, Orange, Green, Blue, Gray, Purple

### STANDARD PUT-UPS

#24 thru #15 ..... 1000' - 500' - 250' - 100' - 50' - 25' - 30'  
#14 thru #6 ..... 500' - 250' - 100' - 50' - 25' - 30'  
#5 thru #2 ..... 250' - 100' - 50' - 25' - 30'  
#1 thru 1/2" ..... 250' - 100' - 50' - 25' - 36"  
3/16" to 3/8" ..... 100' - 50' - 25' - 36"  
1" thru 2 1/2" ..... 50' - 25'

ALL THE ABOVE TUBING CAN BE ORDERED CUT AND MARKED TO YOUR SPECIFICATIONS

## B-1200 — FLEXIBLE FIBERGLASS SLEEVING for Hi-Temperature — applications to 1200° F.

**HIGH TEMPERATURE FIBERGLASS SLEEVING** — Sleeving of tightly braided 100% fiberglass intended for temperatures as high as 1200° F. It provides maximum mechanical strength consistent with the ultimate in flexibility. It is treated to remove all organic matter as well as keeping the glass braid fray resistant. We can provide special construction to 3/16" double wall construction. It can be colored for coding purposes.

Birnbach No.	B & S Gauge Size	I.D. Nom.
B1200-24	24	.022
B1200-22	22	.027
B1200-20	20	.034
B1200-19	19	.038
B1200-18	18	.042
<hr/>		
B1200-17	17	.047
B1200-16	16	.053
B1200-15	15	.059
B1200-14	14	.066
B1200-13	13	.076
<hr/>		
B1200-12	12	.085
B1200-11	11	.095
B1200-10	10	.106
B1200-9	9	.118
B1200-8	8	.133

Birnbach No.	B & S Gauge Size	I.D. Nom.
B1200-7	7	.148
B1200-6	6	.166
B1200-5	5	.186
B1200-4	4	.208
B1200-3	3	.234
<hr/>		
B1200-2	2	.263
B1200-1	1	.294
B1200-0	0	.330
B1200-3/8	3/8"	.387
B1200-1/2	1/2"	.450
<hr/>		
B1200-1/2	1/2"	.512
B1200-5/8	5/8"	.640
B1200-3/4	3/4"	.768
B1200-7/8	7/8"	.893
B1200-1"	1"	1.018

STANDARD COLOR: NATURAL  
OTHER COLORS AVAILABLE TO ORDER

### STANDARD PUT-UPS

SIZES #24 thru #15 ..... 1000' - 100'  
SIZES #14 thru #2 ..... 500' - 100'  
SIZES #1 thru 1/2" ..... 250' - 100'  
SIZES 3/8" thru 1" ..... 100'

Applicable Specifications	Class	Grade	Dielectric Strength	Temp. Rating	Low Temp. Flexibility	Flame Resistance
Nema VSI	H	—	Determined by Space Factor	1200° F.	—	Non-Flam.



# TEFLON® TUBING

## Thin Wall

Birnbach No.	B&S Gauge Size No.	Old No.	Nom. I.D.	Nom. Wall
T500-32	32	8013	.011	.0085
T500-30	30	8014	.012	.009
T500-28	28	8015	.015	.009
T500-26	26	8016	.018	.010
T500-24	24	8000	.022	.010
T500-22	22	8001	.027	.010
T500-20	20	8002	.034	.012
T500-19	19	—	.038	.012
T500-18	18	8003	.042	.012
T500-17	17	—	.407	.012
T500-16	16	8004	.053	.012
T500-15	15	—	.059	.012
T500-14	14	8005	.066	.012
T500-13	13	—	.076	.012
T500-12	12	8006	.085	.012
T500-11	11	—	.095	.012

### STANDARD PUT-UPS

SIZES #32 thru 26 — 1000' - 500' - 250' - 100'  
 SIZES #24 thru 1 1/4" — 1000' - 500' - 250' - 100'

Birnbach No.	B&S Gauge Size No.	Old No.	Nom. I.D.	Nom. Wall
T500-10	10	8007	.106	.012
T500-9	9	—	.118	.015
T500-8	8	—	.125	.015
T500-7	7	8008	.133	.015
T500-6*	6	—	.148	.015
T500-5*	5	8009	.166	.015
T500-4*	4	8010	.186	.015
T500-3*	3	—	.208	.015
T500-2*	2	8011	.234	.015
T500-1*	1	—	.250	.015
T500-3/8"	3/8	—	.263	.015
T500-1/2"	1/2	8012	.294	.015
T500-5/8"	5/8	8013	.312	.015
T500-3/4"	3/4	8020	.330	.015
T500-7/8"	7/8	8021	.390	.020
T500-1"	1	8022	.453	.020
T500-1 1/8"	1 1/8	8023	.515	.025
T500-1 1/4"	1 1/4	8024	.583	.025
T500-1 3/8"	1 3/8	8025	.640	.030
T500-1 1/2"	1 1/2	8026	.765	.030
T500-1 3/4"	1 3/4	8027	.895	.030
T500-2"	2	8028	1.025	.030
T500-2 1/4"	2 1/4	8029	1.150	.030
T500-2 1/2"	2 1/2	—	1.275	.030

\* In random lengths.

Tolerance — Nos. 32 thru 0 — .003" on Wall

Tolerance — Nos. 3/8" thru 1 1/4" — .020" on I.D., .006" on Wall

## Standard Wall — MIL-I-22129C

Birnbach No.	B&S Gauge Size No.	Nom. I.D.	Nom. Wall
T550-24	24	.022	.012
T550-22	22	.027	.012
T550-20	20	.034	.016
T550-19	19	.038	.016
T550-18	18	.042	.016
T550-17	17	.047	.016
T550-16	16	.053	.016
T550-15	15	.059	.016
T550-14	14	.066	.016
T550-13	13	.076	.016
T550-12	12	.085	.016
T550-11	11	.095	.016
T550-10	10	.106	.016

### STANDARD PUT-UPS

1000' - 500' - 250' - 100'

Birnbach No.	B&S Gauge Size No.	Nom. I.D.	Nom. Wall
T550-9	9	.118	.020
T550-8	8	.125	.020
T550-7	7	.133	.020
T550-6	6	.148	.020
T550-5	5	.166	.020
T550-4	4	.186	.020
T550-3	3	.208	.020
T550-2	2	.234	.020
T550-1	1	.250	.020
T550-3/8"	3/8	.294	.020
T550-1/2"	1/2	.312	.020
T550-5/8"	5/8	.330	.020

### SMALL PIECE CUTTING AVAILABLE TO ORDER

STOCK COLORS: Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, White.

## OTHER COLORS AVAILABLE TO ORDER



## B105—EXTRUDED PLASTIC TUBING

APPROVED FOR 105°C OPERATION — MEETS MIL-1-631D SPECS — A quality plastic Vinyl tubing designed for electronic and electrical insulation work. Has high dielectric strength, extreme flexibility, non-flammability, abrasion resistance, impervious to oil, water, alkalies, alcohol, solvents, etc., high heat stability and resistance to aging. Meets all A.S.T.M. specifications, Mil. Spec. (Type F, Form U, Grades A and C, Class 2, Category 1). U.L. Approved

B&S Gauge Size No.	Birnbach No.	Old Part No.	Nom. I.D.	Nom. Wall
24	B105-24	308	.022	.012
22	B105-22	311	.027	.012
20	B105-20	313	.034	.016
19	B105-19	—	.038	.016
18	B105-18	314	.042	.016
17	B105-17	—	.047	.016
16	B105-16	315	.053	.016
15	B105-15	—	.059	.016
14	B105-14	316	.066	.016
13	B105-13	—	.076	.016
12	B105-12	317	.085	.016
11	B105-11	—	.095	.016
10	B105-10	325	.106	.016
9	B105-9	—	.118	.020
8	B105-8	318	.133	.020
7	B105-7	—	.148	.020
6	B105-6	326	.166	.020
5	B105-5	—	.186	.020
4	B105-4	319	.208	.020
3	B105-3	—	.234	.020

### STANDARD COLORS

EVEN NUMBERS — #24, 22, 20, 18, 16 — Clear, Black, Yellow, Red, Green, Brown, Orange, Blue, White, Violet and Gray; #14, 12, 10, 8, 6, 4, 2, 3/8", 1/2", 3/4", 1" — Clear, Black, Yellow, Red, Green, Brown, Orange, Blue and White.

ODD NUMBERS — #19, 17, 15, 13, 11, 9, 7, 5, 3, 1, 0 — Clear, Black White; 3/4" thru 2 1/2" — Clear, Black, White.

### STANDARD PUT-UPS

#24 thru #15 — 1,000' - 500' - 100' - 50' - 25' spools  
 #14 thru #8 — 500' - 100' - 50' - 25' spools  
 #4 thru 1/2" — 250' - 100' - 50' - 25' coils  
 3/4" thru 1" — 100' - 50' - 25' coils  
 1" & larger — 50 coils

SIZES #24 THRU #15 AVAILABLE IN 36" LENGTHS

B&S Gauge Size No.	Birnbach No.	Old Part No.	Nom. I.D.	Nom. Wall
2	B105-2	320	.263	.020
1	B105-1	—	.294	.020
0	B105-0	—	.330	.020
3/8"	B105-3/8"	321	.312	.025
1/2"	B105-1/2"	322	.375	.025
3/4"	B105-3/4"	—	.438	.025
1"	B105-1"	323	.500	.025
1 1/8"	B105-1 1/8"	—	.562	.030
1 1/4"	B105-1 1/4"	324	.625	.030
1 3/8"	B105-1 3/8"	327	.750	.035
1 1/2"	B105-1 1/2"	360	.875	.035
1 3/4"	B105-1 3/4"	361	1.000	.035
2"	B105-2"	—	1.125	.040
2 1/4"	B105-2 1/4"	362	1.250	.040
2 1/2"	B105-2 1/2"	—	1.375	.040
2 3/4"	B105-2 3/4"	363	1.500	.045
3"	B105-3"	328	1.750	.055
3 1/4"	B105-3 1/4"	329	2.000	.060
3 1/2"	B105-3 1/2"	364	2.250	.065
3 3/4"	B105-3 3/4"	365	2.500	.070

## TABLE OF PHYSICAL & ELECTRICAL PROPERTIES—B-105 TUBING

Tensile Strength—2500 Psi. (Minimum Average)

Flammability—Non-Flammable

Ultimate Elongation—340%

Recommended for Temperatures to—105° C

Cold Bend — 40° C

Dielectric Strength .020" Wall—800 V/Mil

Varnish Baking—Good

Water Absorption

Weight Increase (1 Week)—0.1%—Fungus Resistance—Yes

Oil Resistance—Indefinitely flexible when immersed in oil.

Insulation Resistance—over 1,000,000 megohms.

### IN STOCK

The Birnbach Line of insulated sleeving and tubing is the basic quality line designed for the rigid performance requirements of the Aircraft, Electrical and Electronic Industries.

Meets or exceeds the required MIL Specifications and ASTM and NEMA standards. We invite your inquiries on special problems and requirements.





# ELECTRONIC LACING CORD/TAPE

To Meet MIL-T-43435 - COMP-P - Type S - MIL-T-713A - Type P\*

## FLAT BRAIDED LACING TAPE — NYLON

Flat braided Hi-Tenacity Nylon Fiber impregnated with (MW) microcrystalline fungicidal wax. Engineered to stay flat. Distributes stress evenly over a wide area. Resistant to fungus, flame, abrasion, acids. Will not cut or damage insulation. Has strength, toughness and stability.

PUT UP ON 500 YARDS PER TUBE

Cat No.	Class	Width	Thick.	Test lbs.	Yd./Lb.
1035	Natural White	—	.200"	.014"	150 250
1035B	Black	—	.200"	.014"	150 250
1036	Natural White	1	.120"	.014"	80 550
1036B	Black	1	.120"	.014"	80 550
1037	Natural White	2*	.090"	.014"	50 750
1037B	Black	2*	.090"	.014"	50 750
1038	Natural White	3	.062"	.010"	30 1500
1038B	Black	3	.062"	.010"	30 1500
1039	Natural White	4	.046"	.010"	15 2400
1039B	Black	4	.046"	.010"	15 2400



## DACRON

Flat Braided Hi-Tenacity Dacron Fiber impregnated with special non-slip fungicidal finish. Will not cut or damage insulation. Engineered to stay flat—for strength, toughness, stability. Will not cut insulation.

PUT UP ON 500 YARDS PER TUBE

Cat. No.	Width	Thick.	Test lbs.	Yd./Lb.
1041	Natural White	.120"	.014"	80 450
1041B	Black	.120"	.014"	80 450
1042	Natural White	.090"	.014"	48 600
1042B	Black	.090"	.014"	48 600
1043	Natural White	.060"	.010"	35 850
1043B	Black	.060"	.010"	35 850
1044	Natural White	.046"	.010"	25 1100
1044B	Black	.046"	.010"	25 1100

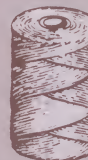


## ROUND NYLON LACING CORDS

This nylon lacing cord manufactured to meet Spec. MIL-T-713A Type P, Composition P, Classes 3, 2, 1. Wax finished — compounded with a fungicide to resist mildew.

PUT UP ON 1 LB. TUBES

	Cat. No. Natural	Cat. No. Black	Yds.	Diam.	Breaking Strength Lbs.
Class 1	1070	1070B	600	.039"	70
Class 2	1071	1071B	800	.029"	48
Class 3	1072	1072B	1140	.025"	32
Class 4	1072/1	1072/1B	2400	.020"	20



## TEFLON®-FIBERGLASS

Flat Braided Fiberglass, teflon coated and bonded for hi-temperature applications (550°F). Engineered to stay flat — for strength, toughness and stability. Teflon finish increases tensile strength and abrasion resistant surface. Will not cut or damage insulation. Color: White.

PUT UP ON 500 YARDS PER SPOOL

Cat. No.	Width	Thickness	Test Lbs.	Yd./Lb.
1045	.170"	.025"	150	200
1046	.120"	.020"	90	200
1047	.080"	.020"	70	280



## TEFLON®

Flat Braided Teflon for hi-temperature applications (550°F). Engineered to stay flat. Will not cut or damage insulation. Color: Brown.

PUT UP ON 500 YARDS PER SPOOL

Cat. No.	Width	Thickness	Test Lbs.	Yd./Lb.
1048	.100"	.016"	35	325
1049	.075"	.010"	15	700

## ROUND LINEN LACING CORDS

This linen lacing cord is made from pure flax treated with microcrystalline wax compounded with fungicide to resist mildew. The twelve, eight and six ply cord meet Spec. MIL-T-713A Type N, Classes 1, 2 and 3 respectively. Color: Natural. Also available in Black in 1 lb. Tubes.

### 4 OZ. TUBES

Cat. No.	Yds.	Class	Ply	Diam.	Lb. Test
1073	210	—	4	.036"	22
1076	150	3	6	.044"	33
1082	115	2	8	.051"	50
1079	100	—	9	.054"	56
1085	75	1	12	.063"	72

### 8 OZ. TUBES

1074	425	—	4	.036"	22
1077	300	3	6	.044"	33
1083	235	2	8	.051"	50
1080	200	—	9	.054"	56
1086	150	1	12	.063"	72

### 1 LB. TUBES

Cat. No.	Cat. No.	Yds.	Class	Ply	Diam.	Lb. Test
1075 Natural	1075B Black	850	—	4	.036"	22
1078 Natural	1078B Black	600	3	6	.044"	33
1084 Natural	1084B Black	470	2	8	.051"	50
1081 Natural	1081B Black	400	—	9	.054"	56
1087 Natural	1087B Black	300	1	12	.063"	72





## TEFLON® TUBING

### Thin Wall

Birnbach No.	B&S Gauge Size No.	Old No.	Nom. I.D.	Nom. Wall
T500-32	32	8013	.011	.0085
T500-30	30	8014	.012	.009
T500-28	28	8015	.015	.009
T500-26	26	8016	.018	.010
T500-24	24	8000	.022	.010
T500-22	22	8001	.027	.010
T500-20	20	8002	.034	.012
T500-19	19	—	.038	.012
T500-18	18	8003	.042	.012
T500-17	17	—	.407	.012
T500-16	16	8004	.053	.012
T500-15	15	—	.059	.012
T500-14	14	8005	.066	.012
T500-13	13	—	.076	.012
T500-12	12	8006	.085	.012
T500-11	11	—	.095	.012

#### STANDARD PUT-UPS

SIZES #32 thru 26 — 1000' - 500' - 250' - 100'  
SIZES #24 thru 1 1/4" — 1000' - 500' - 250' - 100'

Birnbach No.	B&S Gauge Size No.	Old No.	Nom. I.D.	Nom. Wall
T500-10	10	8007	.106	.012
T500-9	9	—	.118	.015
T500-1/4	1/4	—	.125	.015
T500-8	8	8008	.133	.015
T500-7	7	—	.148	.015
T500-6*	6	8009	.166	.015
T500-5*	5	—	.186	.015
T500-4*	4	8010	.208	.015
T500-3*	3	—	.234	.015
T500-1/4*	1/4	—	.250	.015
T500-2*	2	8011	.263	.015
T500-1*	1	—	.294	.015
T500-3/8*	3/8	—	.312	.015
T500-0*	0	8012	.330	.015
T500-1/8*	1/8	8020	.390	.020
T500-3/16*	3/16	8021	.453	.020
T500-1/2*	1/2	8022	.515	.025
T500-5/8*	5/8	8023	.583	.025
T500-3/4*	3/4	8024	.640	.030
T500-7/8*	7/8	8025	.765	.030
T500-1"	1	8026	.895	.030
T500-1 1/8*	1 1/8	8027	1.025	.030
T500-1 1/4*	1 1/4	8028	1.150	.030
T500-1 1/2*	1 1/2	8029	1.275	.030

\* In random lengths.

Tolerance — Nos. 32 thru 0 — .003" on Wall

Tolerance — Nos. 3/4" thru 1 1/4" — .020" on I.D., .006" on Wall

### Standard Wall — MIL-I-22129C

Birnbach No.	B&S Gauge Size No.	Nom. I.D.	Nom. Wall
T550-24	24	.022	.012
T550-22	22	.027	.012
T550-20	20	.034	.016
T550-19	19	.038	.016
T550-18	18	.042	.016
T550-17	17	.047	.016
T550-16	16	.053	.016
T550-15	15	.059	.016
T550-14	14	.066	.016
T550-13	13	.076	.016
T550-12	12	.085	.016
T550-11	11	.095	.016
T550-10	10	.106	.016

#### STANDARD PUT-UPS

1000' - 500' - 250' - 100'

Birnbach No.	B&S Gauge Size No.	Nom. I.D.	Nom. Wall
T550-9	9	.118	.020
T550-1/4	1/4	.125	.020
T550-8	8	.133	.020
T550-7	7	.148	.020
T550-6	6	.166	.020
T550-5	5	.186	.020
T550-4	4	.208	.020
T550-3	3	.234	.020
T550-1/2	1/2	.250	.020
T550-2	2	.263	.020
T550-1	1	.294	.020
T550-3/8	3/8	.312	.020
T550-0	0	.330	.020

#### SMALL PIECE CUTTING AVAILABLE TO ORDER

STOCK COLORS: Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, White.

### OTHER COLORS AVAILABLE TO ORDER



## B105—EXTRUDED PLASTIC TUBING

APPROVED FOR 105°C OPERATION — MEETS MIL-1-631D SPECS — A quality plastic Vinyl tubing designed for electronic and electrical insulation work. Has high dielectric strength, extreme flexibility, non-flammability, abrasion resistance, impervious to oil, water, alkalies, alcohol, solvents, etc., high heat stability and resistance to aging. Meets all A.S.T.M. specifications, Mil. Spec. (Type F, Form U, Grades A and C, Class 2, Category 1). U.L. Approved

B&S Gauge Size No.	Birnbach No.	Old Part No.	Nom. I.D.	Nom. Wall
24	B105-24	308	.022	.012
22	B105-22	311	.027	.012
20	B105-20	313	.034	.016
19	B105-19	—	.038	.016
18	B105-18	314	.042	.016
17	B105-17	—	.047	.016
16	B105-16	315	.053	.016
15	B105-15	—	.059	.016
14	B105-14	316	.066	.016
13	B105-13	—	.076	.016
12	B105-12	317	.085	.016
11	B105-11	—	.095	.016
10	B105-10	325	.106	.016
9	B105-9	—	.118	.020
8	B105-8	318	.133	.020
7	B105-7	—	.148	.020
6	B105-6	326	.166	.020
5	B105-5	—	.186	.020
4	B105-4	319	.208	.020
3	B105-3	—	.234	.020

#### STANDARD COLORS

EVEN NUMBERS — #24, 22, 20, 18, 16 — Clear, Black, Yellow, Red, Green, Brown, Orange, Blue, White, Violet and Gray; #14, 12, 10, 8, 6, 4, 2, 3/4", 3/8", 1/2", 1/4" — Clear, Black, Yellow, Red, Green, Brown, Orange, Blue and White.

ODD NUMBERS — #19, 17, 15, 13, 11, 9, 7, 5, 3, 1, 0 — Clear, Black White; 3/4" thru 2 1/2" — Clear, Black, White.

#### STANDARD PUT-UPS

#24 thru #15 — 1,000' - 500' - 100' - 50' - 25' spools  
#14 thru #8 — 500' - 100' - 50' - 25' spools  
#4 thru 1/2" — 250' - 100' - 50' - 25' coils  
3/4" thru 3/8" — 100' - 50' - 25' coils  
1" & larger — 50 coils

SIZES #24 THRU #15 AVAILABLE IN 36" LENGTHS

B&S Gauge Size No.	Birnbach No.	Old Part No.	Nom. I.D.	Nom. Wall
2	B105-2	320	.263	.020
1	B105-1	—	.294	.020
0	B105-0	—	.330	.020
3/8"	B105-3/8"	321	.312	.025
3/8"	B105-3/8"	322	.375	.025
1/2"	B105-1/2"	—	.438	.025
1/2"	B105-1/2"	323	.500	.025
5/8"	B105-5/8"	—	.562	.030
5/8"	B105-5/8"	324	.625	.030
3/4"	B105-3/4"	327	.750	.035
7/8"	B105-7/8"	360	.875	.035
1"	B105-1"	361	1.000	.035
1 1/8"	B105-1 1/8"	—	1.125	.040
1 1/4"	B105-1 1/4"	362	1.250	.040
1 1/2"	B105-1 1/2"	—	1.375	.040
1 1/2"	B105-1 1/2"	363	1.500	.045
1 3/4"	B105-1 3/4"	328	1.750	.055
2"	B105-2"	329	2.000	.060
2 1/4"	B105-2 1/4"	364	2.250	.065
2 1/2"	B105-2 1/2"	365	2.500	.070

### TABLE OF PHYSICAL & ELECTRICAL PROPERTIES—B-105 TUBING

Tensile Strength—2500 Psi. (Minimum Average)

Flammability—Non-Flammable

Ultimate Elongation—340%

Recommended for Temperatures to—105° C

Cold Bend — 40° C

Dielectric Strength—.020" Wall—800 V/Mil

Varnish Baking—Good

Water Absorption

Weight Increase (1 Week)—0.1%—Fungi Resis.

tance—Yes

Oil Resistance—Indefinitely flexible when im-

mersed in oil.

Insulation Resistance—over 1,000,000 megohms.

#### IN STOCK

The Birnbach Line of insulated sleeving and tubing is the basic quality line designed for the rigid performance requirements of the Aircraft, Electrical and Electronic Industries.

Meets or exceeds the required MIL Specifications and ASTM and NEMA standards. We invite your inquiries on special problems and requirements.



# INSULATION PRODUCTS-SPECIFICATION LISTINGS

TUBING AND SLEEVINGS		
TYPES	TEMPERATURE RANGES	SPECIFICATIONS
B-105 Polyvinylchloride	+105° C -- 20° C	Mil-I-631D, Type F, Form U Grades A & C U/LE-20344 ASTM-D-922 ASTM-D-876
B-65 Low Temperature Polyvinylchloride	+ 80°C -- 67°C	Mil-I-7444B Mil-I-22076
B-130 Vinyl Coated Fibreglass	+130°C -- 20°C	Mil-I-3190B, Grade B, Class B NEMA VS-1, Class B ASTM-D-876 ASTM-D-372 U/LE-20344
T-500 Teflon® Thin Wall	+250°C - 55°C	Mil-I-22129C Mil-P-14078A AMS-3651B AMS-3655B Mil-C-17D U/LE-20344
T-550 Teflon® Standard Wall	+250°C -- 65°C	Mil-I-22129C Mil-P-14078A AMS-3651B AMS-3653B Mil-C-17D U/LE-20344
B-1200	+1200°C	NEMA-VS-1
HEAT SHRINKABLE TUBINGS		
SK-265 Polyvinylchloride	+105°C -30°C	Mil-T-23053A, Class 5 B Mil-I-631D, Grade C U/LE-20344
SK-275 Irradiated Polyolefin	+135°C - 55°C	Mil-I-23053A, Class I & II AMS-3636A AMS-3637A Mil-I-7444B 20344 ASTM-D-638 ASTM-D-792 ASTM-14-53T ASTM-150-54T
SK-621 Teflon®	+250°C - 65°C	Mil-I-23053A, Class IV Mil-I-22129C
LACING TAPES & CORDS		
Flat Braided — Nylon Tape		Type I, Sizes 1, 2, 3, 4, & 5 per Mil-T-43435, Finish B Mil-T-713A, Type P, Classes 1-4
Flat Braided — Dacron Tape		Type II, Sizes 2, 3, 4 & 5 per Mil-T-43435, Finish C Mil-T-713A, Type D, Classes 2, 3, & 4
Flat Braided — Teflon® Coated Fibreglass and Flat Braided Teflon® Tape		Mil-T-713A, Finish PTFE
Round — Nylon Cord		Mil-T-713A, Type P, Comp. P Classes 1, 2 & 3
Round — Linen Cord		Mil-T-713A, Type N, Classes 1, 2 & 3



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